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AND THEIR USE

cons.aa	G C G V	A K	E
HTGFBR-II	LDTLVGKGRFAEVYKALQNTSEQFETVAVKI	FPYDHYASWDRKDI	PSDINLQHENLLOP
hActr-IIB	LLEIKARGRFGCVWKAQLN	-----DFVAVKI	KPLQDKQSWQSEREIFSTPGQCHENLLOP
hActr-II	LLEVKARGRFGCVWKAQLN	-----ETVAVKI	FPYDHYASWDRKDI
daf-I	LKRVGSGRFGVNSRGDYRG	-----EAVAVKV	NAIDEPAPHKEIETIETRGLRHPRVRLY
subdomains	I	II	III IV

HTGFBR-II	LTAERKTELKQYMLITAFHAKGNLQEYLTRHVI	SWEDLRNVGSSLRGLSHLSHSDHP-C
hActr-IIB	IAAEKRGSNLEVELMLITAFHDKGSLIDYLGNI	ITWNECHVAETHSRGISTYLHEDVPMCR
hActr-II	IGAEKRGTSVDVDMILITAFHAKGSLIDFLKAVVSWNELCH	IAETHARGLAYLHEDI
daf-I	IGSDRVDVTFVTEMLVITETHPSGSLHDFLENTVNI	ETTYNLHRSSTASGLAFLHNQIGGSK
subdomains	V	VI-A

cons.aa	DLK N	DFG
HTGFBR-II	-GRPKPIVHRDLKSSNILLVNDLTCCLCDFGLSLRL	---GPYSSVDDLANSQGVGTARYMAP
hActr-IIB	GGHKKPSIAHRDFKSNVLLKSDLTAVLADFGLAVERF	---EPGKPPGD---THGQVGTTRYMAP
hActr-II	-DGHPALSHRDIKSTNVLLKNNLTACIADFGLAVERF	---BAGKSAGD---THGQVGTTRYMAP
daf-I	-ESNKPANHRDIKSTNVLLKNNLTCAIGDLGLSLSKPEDAASDIAN	---ENYKQGVTRYMAP
subdomains	VI-B	VII VIII

(57) Abstract

A new receptor family has been identified, of activin-like kinases. Novel proteins have activin/TGF- β -type I receptor functionality, and have consequential diagnostic/therapeutic utility. They may have a serine/threonine kinase domain, a DFKSRN or DLKSKN sequence in subdomain VIB and/or a GTKRYM sequence in subdomain VIII.